



# UNITED STATES PATENT AND TRADEMARK OFFICE

*mn*  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,934	12/29/2000	James Neal Richter	RNOT.80303	8042
27526 7590 07/12/2007 BLACKWELL SANDERS LLP 4801 Main Street Suite 1000 KANSAS CITY, MO 64112			EXAMINER CHEN, TE Y	
			ART UNIT 2161	PAPER NUMBER
			MAIL DATE 07/12/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

09/751,934

Applicant(s)

RICHTER ET AL.

Examiner

Susan Y. Chen

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-12,14-22,27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-12,14-22,27 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

This office action is in response to the amendment filed on April 23, 2007.

Claims 1-2, 4-12 and 14-22, 27-28 are pending for examination, claims 1, 2, 14, and 28 have been amended.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14-16, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 14, what is it meant by "a network structure which allows cycles" (i.e., applicant did not specifically define the claimed network structure and the claimed cycles, hence these subject matters render the claim to be indefinite).

As to claims 15-16, these claims have the same defects as their base claim 14, hence are rejected for the same reason.

Because the ambiguous nature of instant invention, the following art rejection is to the best that the examiner is able to ascertain.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-12, 14--22 and 27-28, are rejected under 35 U.S.C. 103(a) as being unpatentable over Horvitz et al. (U.S. Patent No. 6,182,133) in view of Wical (U.S. Patent No. 5,940,821).

As to claim 1 and 28, Horvitz et al. (hereinafter referred as Horvitz) discloses a method as claimed by applicant, comprising:

identifying a first/second informational item; [e.g., the use of URL and a web search engine to identify user's favorite pages at col. 1, lines 41-43 & col. 43, lines 57-63];

applying an ensemble of algorithms to determine a relationship link between said first and second informational items [e.g., a statistical analyses of usage log data of a user model including Bayesian models at col. 27, lines 28 – col. 28, lines 30, col. 43, lines 9-37];

detecting an access of first information item [e.g., the Web Server Application Programs 80, Fig. 1; Fig. 16 and associated text; col. 47, lines 9-18];

detecting an access of a second informational item [e.g., the Browser Application program 30, Fig. 1; Fig(s) 6 and associated text];

establishing that a relationship link exists between said first informational item and second informational item [e.g., the use of hypertext link to establish relationship between Web pages at col. 1, lines 47-59; the hotlink at col. 8, line 31- col. 9, line 7].

determine an integer-weight based on the historical frequency of the relationship link [e.g., the user modeling processing that determines the numerical ranking of URLs based on historical logged data of page transitions across all individuals site visiting activities or Bayesian model encoding processing at col. 4, lines 30-47];

applying an ensemble of algorithms to said first informational item and said second informational item [e.g., User modeling comprising the Bayesian model or a Hidden Marko model that collectively containing a set of predefined rules or functions to generate a weight (or likelihood estimates) applied over a set of URLs and /or corresponding web page components at col. 28, lines 8-14];

assigning the weight (or likelihood estimates) to the output of said ensemble of algorithms [e.g., col. 43, lines 9-37];

storing the output of said ensemble of algorithms [e.g., the units: 1605, 1608, 1660, Fig. 16 and associated texts].

Horvitz does not specifically disclose that the weight (or likelihood estimates) is related to an integer-value.

However Wical (U.S. Patent No. 5,940,821) discloses an information item retrieval system with the link relationship weight represented as integer [e.g., Abstract, col. 12, lines 15 – 51; Fig(s). 4, 9a and associated texts].

Horvitz and Wical are both endeavor to optimize an informational document classification mapping of an information query and retrieval system via managing World Wide Web page browsing and correlation activities over open network, therefore, with the teachings of Horvitz and Wical in front of him/her it would have been obvious for an ordinary skilled person in the art at the time the invention was made to be motivated to apply the well known integer-value weight as disclosed by Wical into Horvitz's information retrieving and classification system, because by doing so, the combined system will be upgraded to have integer-value weight associate with the relationship link between informational items, such that it would facilitate the outcome calculation of ensemble algorithms during informational items classification mapping of the combined system.

As to claim 2, except all the features recited in claim 1 above, the combined system of Horvits and Wical further discloses that the step of identifying and detecting the second informational item includes the identifying and detecting of a plurality of informational items [e.g., Horvits: the web server, col. 1, lines 41-67, col. 4, lines 20-47].

As to claims 4 and 27, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses that the step of applying an

Art Unit: 2161

algorithm for data aging wherein the usage of the relationship link is monitored and used as feed back for the weight associated with the relationship link [e.g., Horvits: col. 5, lines 38-52]; wherein, the data aging runs as a function of traffic load to age the relationship links according to relevance of the relationship links [e.g., Horvits: Fig.(s) 17A-C and associated texts].

As to claims 5-6, except all the features recited in claim 4 above, the combined system of Horvits and Wical further discloses that the step of applying a repeatedly pruning algorithm wherein external information regarding the usefulness of at least one relationship link is utilized to modify the existence of a recorded relationship link and determine if a recorded relationship link should be removed [e.g., Horvits: the refinement processing at col. 4, lines 50-62; col. 5, lines 11-18; lines 55-60].

As to claim 7, except all the features recited in claim 5 above, the combined system of Horvits and Wical further discloses that the step of applying said pruning algorithm makes use of a user determined feedback of the usefulness of a relationship [e.g., Horvits: col. 28, lines 3-22].

As to claim 8, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses that said ensemble includes a plurality of algorithms and wherein said relationship link integer-value weight is adjusted in direction proportion to the number of algorithms within said ensemble of algorithms that

Art Unit: 2161

determine the existence of said relationship link [e.g., Wical: Fig. 5 and associated texts].

As to claim 9, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses that said relationship link is positioned in a list in direct proportion to the degree of consensus among said ensemble of algorithms [e.g., Horvits: col. 10, lines 47-61].

As to claim 10, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses that said ensemble includes a plurality of algorithms and each of said algorithms runs independently of all other algorithms [e.g., Horvits: col. 11, lines 6-12].

As to claim 11, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses the step of merging the outputs of said ensemble of algorithms [e.g., Horvits: col. 12, lines 1-20, Fig. 2 and associated texts].

As to claim 12, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses the step of recording said relationship link in a non-Bayesian-type network [e.g., Wical: the unit 115, Fig. 2 and associated texts; Fig. 4 and associated texts].



As to claims 14-22, these claims recited the same features as claims 1-12 and 27 in form of computer apparatus or a readable storage medium product, hence are rejected for the same reason.

### ***Response to Arguments***

Applicant's arguments based on newly amended limitations as filed on April 23 2007, have been fully considered but they are not persuasive.

The examiner disagrees with applicant's arguments and piecemeal interpretation that 'Horvitz reference does not disclose, teach or suggest the steps of "identifying a first informational item, identifying a second informational item, applying an ensemble of algorithms to determine an integer-weight relationship link between said first and second informational items" as recited in claim 1'.

In response to these arguments, the Office first points out that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In addition, the examiner noted that applicant's fails to define the metes and bounds of the claimed "a first informational item" and "a second informational item", as such, the claimed informational items are open for reasonable art interpretation, and the examiner regards any data items of a web page read on the claimed first and second informational items.

Furthermore, as cited in the above paragraphs, Horvitz specifically discloses the techniques of a web search engine that applies Universal Resource Locator (URL) to identify a user's favorite pages as the claimed first/second informational items; [e.g., col. 1, lines 41-43 & col. 43, lines 57-63]

Moreover, Horvitz specifically discloses the use of "probabilities user models" or "Bayesian model" for applying an ensemble of algorithms to determine a relationship link between said first and second informational items [e.g., col. 27, lines 28 – col. 28, lines 30, col. 43, lines 9-37]. Additionally, Wical discloses an information item retrieval system with the link relationship weight represented as integer [e.g., Abstract, col. 12, lines 15 – 51; Fig(s). 4, 9a and associated texts] Hence, one of ordinary skill in the art at the time the invention was made would in fact, contrary to applicant's arguments, look to incorporate Wical's integer relationship weight representation schema in Horvitz's system for clearly depicting online analysis processing, Therefore, the examiner contends that there would be most definitely a reasonable expectation of success.

As to the rest of arguments applicant either argued based on newly amended features that are moot on the new ground rejections or merely rehashes issues already addressed on record, thus, based on the discussion above, the rejections are maintained.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### ***Points of Contact***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y. Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mofiz Apu can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2161

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Susan Y Chen  
Examiner  
Art Unit 2161



June 29, 2007